LONG-TERM ECONOMIC OUTLOOK
ANNUAL REVIEW

September 1989

This Review replaces the
September 1988 Long-Term Economic Outlook
The forecasts contained in it have been approved by the
Vice-President, Corporate Planning.
They have the status of Corporate Predictions as defined under
Section 7 of the OOOH Manual.

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For extra copies, call 6394.

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Note: Recipients who have an Economic Outlook binder should place this report under the tab titled "Economic Outlook: Long Term". Those users who are on the Cost Escalators and Alternative Scenarios distribution lists will receive those reports in November.

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MEMORANDUM

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September 1989

File No.: 706.01 (#281)

Long-Term Economic Outlook - Annual Review

1. Changes from the Previous Outlook

This forecast updates the Long-Term Economic Outlook issued in September of 1988. There are relatively few changes in the forecast, with the most significant being an increase in the inflation rate in the 1991-95 as a result of the expected introduction of the new Goods and Services Tax. The changes in the key indicators are summarized in the following table:

Changes from the September 1988 Outlook

	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
Ontario Real GDP Growth*	+0.3	+0.2	-0.3	-0.1	+0.1	+0.2
CPI Inflation Rate*	+0.0	+0.8	+0.1	-0.5	0.0	0.0
Government Bond Rate	-0.1	+0.3	0.0	-0.3	0.0	0.0
Canadian Dollar**	+1.7	+0.5	0.0	+2.0	+2.0	+3.0
Real Natural Gas Price*	-5.5	+3.0	+1.5	-0.6	+1.4	+0.9

*Difference in growth rate (percentage points) from previous forecast.

** Change in US cents relative to previous forecast.

"Real" values are computed by subtracting the inflation rate. Some of the changes shown for the 1986-1990 period were already incorporated in the February or May 1989 Short-Term Outlooks.

2. Uncertainty in Long-Term Forecasting

Any forecast of the distant future depends on uncertain assumptions, especially about domestic and international political conditions. This report summarizes our Most Likely forecast scenario. It will be supplemented by three alternative scenarios in the report entitled "Alternative Scenarios for Corporate Planning," which discusses the main risks to the forecast.

3. Ontario Economic Growth

	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
Employment growth*	1.5	2.7	2.1	1.0	0.9	0.7	0.1
Real output per worker*	2.2	1.3	1.2	1.5	1.4	1.5	1.9
Total output growth (GDP)*	3.8	3.9	3.3	2.5	2.3	2.3	1.9

* Average annual percent change.

The dominant factor behind the forecast of a slowing trend of economic growth is the forecast of slow population (and labour force) growth. The birth rate has declined dramatically in the past twenty years, virtually guaranteeing that the rate of labour force growth over the next two decades will be less than half of what it was during the past two decades. The government is likely to permit increased immigration as labour shortages develop in the 1990s, but this is not expected to offset the decline in births. It now appears that the birth rate has stopped falling, but it is likely to stay so low that, in the absence of immigration, Canada's population would eventually decline.

As a result of slow labour force growth, aggregate output in the economy is forecast to grow slowly compared to historical rates, but growth in productivity (real output per worker) should improve, allowing a substantial growth in per capita real incomes. In the ten year period ending in 1982, productivity growth in Ontario was approximately zero as a result of economic instability, rapid entry of inexperienced workers into the labour force, and energy price shocks. The latter were particularly harmful to Ontario, because they diverted investment away from Ontario to western Canada, and reduced demand for automobile production. We are assuming that Ontario industry will successfully meet the competitive challenges posed by the Free Trade Agreement, and that productivity growth will be enhanced as a result of it. Productivity growth in the five year period from 1985 to 1989 has averaged only 1.1 percent per year (in spite of strong demand conditions), which is slower than the average of 1.4 percent we expect over the next two decades. The hoped for increase in productivity growth would be the result both of greater efficiency prompted by the Free Trade Agreement, and greater reliance on capital investment to utilize advancements in technology and further automate production processes.

4. Sectoral Distribution of Output

	1970	1980	1985	1990	1995	2000	2005	2010
Primary Sector*	6.8	4.8	4.1	3.7	3.4	3.2	3.0	2.9
Manufacturing Sector*	27.3	26.1	27.4	26.7	27.0	27.1	27.0	27.0
Service Sector*	49.9	54.0	53.7	55.5	55.9	56.4	57.2	57.8

*Percentage share of provincial GDP (eg, the importance of these sectors as direct sources of income for Ontarians)

The composition of GDP growth is important for predicting the growth in demand for electricity, because some industries and sectors are considerably more electricity-intensive than others (meaning that electricity represents a relatively larger share of the total cost of that industry's production). The main trend in industrial structure over the last few decades has been a declining share of primary industry (mining, agriculture, logging) in Ontario's GDP, and a slight increase in the share of manufacturing and services. As typically measured, services (excluding government administration) now account for about 50 percent of Ontario's GDP. However, much of this is not personal services but rather services to other businesses. It has been estimated that when services whose existence is dependent on manufacturing are included, manufacturing accounts for roughly 50 percent of GDP, and it is clear that continued growth in standards of living depends on the maintenance of a strong manufacturing sector in Ontario. The gradual depletion of natural resources (and competition from mines in low wage countries) implies a continued decline in the relative importance of the primary sector in Ontario's future. It is felt that Ontario's proximity to markets, educated labour force, and well-developed infrastructure (not least of which is a reliable supply of electricity) should enable this province to meet the challenges created by the Free Trade Agreement. Some individual companies will inevitably suffer as a result of the restructuring needed to meet new competition, but Ontario's largest industries are expected to be quite cost-competitive, and the economy will tend to specialize more in the industries in which it is already strong.

The introduction of the federal government's Goods and Services Tax in 1991 would lead to some structural shifts in the economy. This tax would make the price of services rise more than the prices of manufactured goods, and so would be expected to lead to some loss of market share for services. However, the details of the tax were released too late for us to fully analyze this issue, and the projections of sectoral share shown here do not reflect the impacts of the GST.

5. Inflation - Consumer Price Index*

1981 - 1985	7.6%	2001 - 2005	5.0%
1986 - 1990	5.1%	2006 - 2010	5.0%
1991 - 1995	5.3%	2011 - 2025	5.0%
1996 - 2000	5.0%		

* Average annual percent change for Ontario

Inflation is a particularly uncertain variable, because its long-run value is the result of government policies, rather than fundamental economic forces. The long-term forecast of inflation is a political forecast, which relies on our conjectures of how the economic factors prevailing in the future will influence government policy. Following an inflation rate which peaked at 12.5 percent in 1981, tight monetary policy brought about the deepest post-war recession in 1982, leading to an average inflation rate just under 4 percent in 1985. The rhetoric of central bankers has called for the inflation rate to decline all the way to zero, but in fact their actions have been such as to allow it to creep upward into the 5 percent range, and there is not yet any firm assurance that it will be stopped there. In Canada, there is also the prospect of sales tax reform, which would impose a new 9 percent tax on services, and initially add about 3 percentage points to the CPI in 1991.

Inflation becomes entrenched because of the habitual increases in prices and wages by hundreds of thousands of individual decision makers, who are themselves responding to the inflation they have just experienced. It is likely that reducing inflation further could only be achieved by a severe recession, and there is no political support for central bankers to undertake such a measure. At the same time, it is reasonable to assume that governments and the electorate have learned how harmful high and rising inflation can be, and so will try to limit it to what is considered a moderate range (not above 6 percent). For that reason 5 percent has been chosen as a likely mid-range of the actual outcomes.

6. Interest Rates (%)

	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
20-year Bond Rate	13.2	9.7	9.5	9.5	9.2	9.0	8.5
5-year Bond Rate	12.5	9.3	9.3	9.0	8.5	8.5	8.0
Real Treasury Bill Rate	5.0	5.3	3.5	2.9	2.4	2.2	2.0

Real rates of interest have been well above historical averages all through the 1980s because of a combination of tighter central bank monetary policies (to control inflation) and high levels of government borrowing, and they are expected to decline only gradually. Government deficits in the United States have declined considerably. Unfortunately, the buildup of debt resulting from past deficits has resulted in a large increase in the

economy's debt to equity ratio, which will take many years to reduce even if deficits continue to decline. Investors have to be offered a higher real return to make them willing to hold a larger share of their portfolios in the form of government debt. While real interest rates will remain relatively high for the next several years, they will be on a declining trend as these debt pressures diminish. A gradually increasing personal savings rate is also expected to increase the supply of capital and contribute to lower real interest rates. It has been found that individuals tend to save a larger proportion of their income after the age of 45, and this factor should contribute to higher savings as the Baby Boom generation matures, but it is not expected to be a significant factor until after the year 2000.

Canadian interest rates are primarily determined by events in the United States since our capital markets are so closely linked, but Canadian factors do have the ability to influence the differential between Canadian and US rates. In recent years, there has been an unusually large differential between Canadian and US rates. This has been partly due to tighter monetary policy on the part of Bank of Canada (which, in turn, has partly been in response to the potentially inflationary effects of large government deficits in Canada). In the longer term, the Canadian prime interest rate is expected to be about 0.5 percent above its US counterpart.

7. Canadian Dollar Exchange Rate*

1981 - 1985	79.3	2001 - 2005	80.0
1986 - 1990	79.1	2006 - 2010	79.0
1991 - 1995	79.5	2011 - 2025	78.0
1996 - 2000	80.0		

* Average value in US cents.

The main determinant of the long-run exchange rate trend is the differential between Canadian and US inflation rates. It is expected that the Canada-US Free Trade Agreement will increase the alignment between Canadian and US monetary policies, and expose the Canadian economy to greater competitive forces, eliminating the historical tendency for Canadian inflation to exceed US inflation. However, the exchange rate currently is above its sustainable value (estimated to be about 80 US cents) as a result of capital inflows resulting from interest rates which are considerably higher in Canada than in the United States. In the very long run, demographic factors are also likely to contribute to a slight downward trend in the value of the Canadian dollar. An aging population is likely to save more (and a growing proportion of this would be invested abroad as slow labour force growth reduces the opportunities for profitable investment in Canada) and also accelerate the growth of the travel deficit.

8. Energy Prices*

	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
Canadian Crude Oil	-8.8	2.6	2.9	0.9	1.2	0.6
Natural Gas	-10.0	4.5	6.3	1.4	1.7	0.9

* Annual average percent change in price (with CPI inflation removed).

The oil market has remained very volatile especially since the 1986 oil price collapse. This trend is expected to continue with crude oil prices reacting both to the fundamental and speculative factors of the market. OPEC's ability to control its output at times of a weakening market remains the most important determinant of market stability in the near term. For the next few years world oil prices are projected to average in real terms around US$18 per barrel (in 1989$). Upward pressure on world oil prices is expected to resume in the 1990s. This pressure is due mainly to stronger demand for oil, limited growth potential in non-OPEC production, increased OPEC control of the market, and higher incremental cost of non-OPEC oil. Deregulation of the domestic oil market is expected to continue. Canadian crude oil prices are projected to move with the trend in international oil prices subject to exchange rate and transportation cost adjustments. In recent years natural gas prices have been under strong downward pressure as a result of a North American natural gas surplus, the deregulation process and depressed oil prices. A downward revision of our forecast for the wholesale price of natural gas at Toronto in the near term results from the change in contractual arrangements between Western Gas Marketing and Local Distributing Companies and a more precise definition. Our long-term price projections, have remained relatively unchanged -- the combination of a tighter US market, increasing cost of marginal supplies and a preference for that fuel for environmental reasons is expected to drive up North American gas prices.

If you have any questions concerning the Economic Outlook, please feel free to call me (6375) or Peter Spiro (6389). Readers who would like more information on the reasoning behind the forecasts may obtain technical background papers on the Ontario demographic and sectoral forecasts by calling Lauren Hachey (6394).

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1.0 FORECAST TABLES

1.1 ONTARIO

	Actual		Forecast					
	1976-1980	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
Annual Average Percentage Change:								
Real Gross Domestic Product	2.5	3.9	3.8	3.3	2.5	2.3	2.3	1.9
Consumer Price Index (Ont)	N/A	7.6	5.1	5.3	5.0	5.0	5.0	5.0
Average Hourly Earnings:								
Manufacturing	9.5	8.1	4.7	6.0	6.0	6.5	7.0	7.0
Construction	9.6	6.1	4.7	6.0	6.0	6.5	7.0	7.0
Population	1.0	1.0	1.5	1.2	0.8	0.7	0.6	0.4
Labour Force	2.7	1.8	2.1	1.8	1.2	0.9	0.7	0.1
Employment	2.7	1.5	2.7	2.1	1.0	0.9	0.7	0.1
Labour Productivity	0.0	2.2	1.3	1.2	1.5	1.4	1.5	1.9
Annual Average Rates:								
Unemployment Rate	6.8	8.8	5.7	4.6	4.3	4.0	4.0	4.0

1.2 CANADA

	Actual		Forecast					
	1976-1980	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
Economic Growth Indicators: (Annual Avg Percentage Change)								
Real Gross Domestic Product	3.9	2.9	3.3	3.3	2.6	2.5	2.2	1.9
Population	1.2	1.9	1.0	0.9	0.7	0.6	0.5	0.4
Labour Force	3.0	1.6	2.1	1.7	1.0	0.7	0.5	0.1
Employment	2.9	1.0	2.6	1.8	1.3	0.9	0.7	0.1
Labour Productivity	1.0	1.9	0.7	1.5	1.3	1.6	1.5	1.8
Unemployment Rate (%)	7.7	10.4	8.5	7.5	6.6	5.7	5.0	5.0
Cost Indicators: (Annual Avg Percentage Change)								
GDP Deflator	8.3	6.1	4.1	4.8	5.0	5.0	5.0	5.0
Consumer Price Index	8.8	7.5	4.4	5.2	5.0	5.0	5.0	5.0
Industry Selling Price (Mfg)	10.0	5.4	3.3	4.6	5.5	5.5	5.0	5.0
Average Hourly Earnings (Mfg)	10.1	8.1	4.3	5.9	6.0	6.5	7.0	7.0
Real Average Hourly Earnings	1.3	0.6	-0.1	0.7	1.0	1.5	2.0	2.0
Interest Rates (Annual Avg Rate):								
Real Treasury Bill Rate*	1.3	5.0	5.3	3.5	2.9	2.4	2.2	2.0
Treasury Bill Rate	10.1	12.5	9.7	8.7	7.9	7.4	7.2	7.0
Bank Prime	11.1	13.8	11.1	9.7	9.0	8.5	8.3	8.0
Government of Canada Bonds:								
5 years	9.6	12.5	9.4	9.3	9.0	8.5	8.5	8.0
20 years	10.0	13.2	9.7	9.5	9.5	9.2	9.0	8.5
Federal Deficit (% of GNP)	3.3	5.4	3.9	3.0	2.5	2.0	1.0	1.0
Canadian Dollar in US Cents	90.8	79.3	79.1	79.5	80.0	80.0	79.0	78.0
Net Capital Inflows (% of GDP)	2.6	1.4	2.4	2.5	2.5	1.5	1.0	0.0

* The nominal Treasury Bill Rate minus the rate of CPI increase.

1.3 UNITED STATES*

	Actual		Forecast					
	1976-1980	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
Annual Average								
Percentage Change:								
Real Gross National Product	3.4	2.6	2.9	2.6	2.2	2.2	2.3	2.0
Consumer Prices	8.9	5.5	3.9	4.6	5.0	5.0	5.0	5.0
Hourly Wages	8.6	5.6	3.8	5.2	6.0	6.5	6.5	6.5
Average Annual Rate:								
Federal Deficit (% of GNP)	1.9	4.2	3.3	1.8	1.3	1.0	1.0	1.0
Prime Interest Rate	10.1	13.3	9.2	8.6	8.5	8.0	7.8	7.5
Difference, Canadian-US Prime Rate	0.9	0.5	1.9	1.1	0.5	0.5	0.5	0.5
Government Bond Yields								
3 to 5 year maturity	8.6	11.5	7.7	8.0	8.0	7.7	7.7	7.3
10 to 20 year maturity	8.9	11.8	8.4	8.5	8.5	8.2	8.2	7.7
Canadian-US Long-Term Yield	1.1	1.4	1.3	1.0	1.0	1.0	0.8	0.8

* These forecasts are mainly derived from Data Resources Inc.

1.4 ONTARIO INDUSTRIAL STRUCTURE

	Actual				Forecast				
	1970	1975	1980	1985	1990	1995	2000	2005	2010
Industry's Share of Total Provincial Gross Domestic Product (%)									
PRIMARY	6.8	5.1	4.8	4.1	3.7	3.4	3.2	3.0	2.9
Agriculture	2.7	2.6	2.3	2.2	1.8	1.7	1.6	1.5	1.4
Logging and Forestry	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
Mining	3.6	2.2	2.1	1.5	1.5	1.4	1.3	1.2	1.1
MANUFACTURING	27.3	26.6	26.1	27.4	26.7	27.0	27.1	27.0	27.0
Food and Beverage	3.3	2.9	3.0	2.7	2.4	2.3	2.2	2.1	2.0
Tobacco	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Rubber and Plastics	0.8	0.8	1.0	1.1	1.1	1.2	1.2	1.3	1.3
Leather, Textiles and Clothing	1.3	1.2	1.4	1.3	1.2	1.1	1.0	1.0	0.9
Wood Products	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Furniture and Fixtures	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Pulp, Paper and Allied Products	1.9	1.4	1.6	1.5	1.4	1.4	1.4	1.4	1.4
Printing and Publishing	1.3	1.3	1.5	1.4	1.4	1.3	1.3	1.4	1.4
Primary Metal Products	3.7	3.0	2.4	2.2	1.9	1.8	1.8	1.8	1.7
Fabricated Metal Products	2.9	2.6	2.5	2.1	2.2	2.2	2.2	2.2	2.2
Machinery	1.7	1.7	1.9	1.3	1.4	1.4	1.3	1.3	1.2
Transportation Equipment	3.2	4.5	3.2	5.3	4.7	5.1	5.3	5.4	5.4
Electrical Products	1.9	2.0	2.5	3.4	4.1	4.3	4.5	4.5	4.6
Non-Metallic Mineral Products	0.9	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Refined Petroleum and Coal	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Chemical Products	1.9	1.7	2.0	2.1	2.0	1.9	2.0	2.0	2.0
Other Manufacturing Industries	1.1	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8
CONSTRUCTION	6.3	6.0	5.5	6.1	6.1	6.1	6.1	6.0	5.9
UTILITIES	2.5	2.7	3.0	2.7	2.6	2.5	2.4	2.3	2.2
SERVICES	49.9	52.1	54.0	53.7	55.5	55.9	56.4	57.2	57.8
Transportation & Communication	5.8	6.0	7.2	7.2	7.6	7.8	8.1	8.3	8.5
Trade	11.3	11.3	10.8	11.1	11.5	11.6	11.5	11.3	11.2
Finance, Insurance & Real Estate	13.7	14.5	15.7	15.8	16.0	16.2	16.6	17.2	17.6
Community, Business & Personal Services	19.0	20.2	20.4	19.6	20.3	20.3	20.3	20.4	20.5
PUBLIC ADMINISTRATION	7.2	7.5	6.6	6.1	5.5	5.1	4.8	4.5	4.2
TOTAL ECONOMY	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1.5 ENERGY

	Actual					Forecast				
	1988	1989	1990	1991	1992	1991-1995	1996-2000	2001-2005	2006-2010	2011-2025
	dollars					<annual percentage change>				
WORLD OIL PRICES										
$ per Barrel										
International Oil Price										
FOB Cost US Imports										
Annual Average Price										
Current US Dollars	13.25	17.00	18.20	19.30	20.60	8.2	9.2	7.3	7.3	6.0
Constant US 1989 Dollars	13.80	17.00	17.35	17.75	18.15	2.7	2.7	1.0	1.0	0.5
West Texas Intermediate										
at Chicago										
Current US Dollars	16.60	19.50	19.95	21.15	22.50	8.0	8.9	7.2	7.2	6.0
Constant US 1989 Dollars	17.28	19.50	19.05	19.45	19.85	2.5	2.5	0.9	0.9	0.5
CANADIAN CRUDE OIL										
AND NATURAL GAS PRICES										
Canadian $ per Barrel:										
Ontario Refiners' Acquisition										
Cost (Light Crude)										
Annual Average Price										
Current Dollars	20.65	22.95	24.65	27.05	29.30	9.0	9.5	7.2	7.5	6.0
Constant 1989 Dollars	21.85	22.95	23.45	24.50	25.30	2.6	2.9	0.9	1.2	0.6
Natural Gas:										
Canadian $ per Million Btu:										
Average Wholesale Price										
at Toronto[1]										
Annual Average Price										
Current Dollar	3.35	2.92	3.06	3.32	3.65	11.0	13.0	7.8	8.1	6.3
Constant 1989 Dollars	3.54	2.92	2.91	3.00	3.15	4.5	6.3	1.4	1.7	0.9

[1] The difference in estimated wholesale price of natural gas at Toronto from the last year forecast results from the change in contractual arragements between WGM and LDCs and a more precise definition.